

Northern Biologics' MSC-1 Enters the Clinic

*--First patient enrolled in trial of lead immuno-oncology antibody--
--MSC-1 preclinical data and clinical trial overview to be highlighted at ASCO--*

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TORONTO -Northern Biologics Inc., a developer of first-in-class immuno-oncology products, today announced that its lead immuno-oncology antibody, MSC-1, began clinical testing at Memorial Sloan Kettering Cancer Center with plans to soon expand to other world-leading sites in Canada and Europe.

MSC-1 is a humanized antibody against a soluble cytokine called LIF (see “About LIF” below). LIF plays a multi-faceted role in cancer, and as a result inhibiting the target opens up two therapeutic avenues: reversal of tumor immunosuppression and blockade of tumor growth via inhibition of cancer initiating cells (CICs).

The open-label, dose-escalation Phase I trial is testing MSC-1 as monotherapy in patients with relapsed or refractory metastatic solid tumors. The primary objectives of the study are to evaluate the safety and tolerability of MSC-1, determine the recommended dose for MSC-1 monotherapy and assess the product’s preliminary activity as measured by objective response rate. Secondary objectives include assessing progression-free survival and studying MSC-1’s pharmacokinetics.

“We are pleased to begin clinical testing of this novel mechanism that has potential to benefit patients with advanced cancers,” said David Hyman, principal investigator of the trial and chief of the Early Drug Development Service at Memorial Sloan Kettering Cancer Center. “We look forward to continued progress in the trial and to presenting data at ASCO on the rationale for developing an anti-LIF therapy for cancer.”

Northern Biologics will provide additional details regarding the trial at the June 1-5 American Society of Clinical Oncology meeting in Chicago. Also at ASCO, the company will report that MSC-1 decreased tumor growth in multiple mouse tumor models and drove reprogramming of the tumor microenvironment (TME) by decreasing immunosuppressive macrophages and modulation of other immune cell types. These



previously announced findings form the basis of a robust therapeutic hypothesis, whereby MSC-1 treatment may lead to clinical activity in multiple cancers.

“We are excited that MSC-1 is entering clinical studies and look forward to rapidly progressing the compound with the aim of treating defined populations of cancer patients where targeting LIF may provide therapeutic benefit,” said Philip Vickers, CEO of Northern Biologics.

About LIF

LIF, or leukemia inhibitory factor, is an exciting emerging target in the immuno-oncology space. Northern Co-Founder Joan Seoane first elucidated a role for the cytokine in cancer in a seminal 2009 publication in *Cancer Cell*. Since that time, several independent labs have demonstrated the role of LIF in many cancers. LIF is hypothesized to contribute to tumor growth and progression by acting on multiple aspects of cancer biology, including immunosuppression within the tumor microenvironment (TME), and regulation of cancer initiating cells (CICs), which are thought to underpin tumor growth, metastasis and resistance to therapy.

About Northern Biologics

Northern Biologics was launched in June 2014 from Blueline Bioscience, a Canadian biotechnology incubator operated by venture capital firm Versant Ventures, in partnership with the University of Toronto and University Health Network’s Princess Margaret Cancer Centre. Headquartered in the MaRS Discovery District of Toronto, the company is developing a portfolio of antibody-based therapeutics based on relevant targets in the tumor microenvironment. Learn more at northernbiologics.com.

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